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PHOTOGRAPHIC INTERPRETATION REPORT

TALLINN AMM/SAM LAUNCH COMPLEX AND CHEREPOVETS SUSPECT AMM/SAM LAUNCH COMPLEX, USSR

Declass Review by NIMA/DOD



CIA



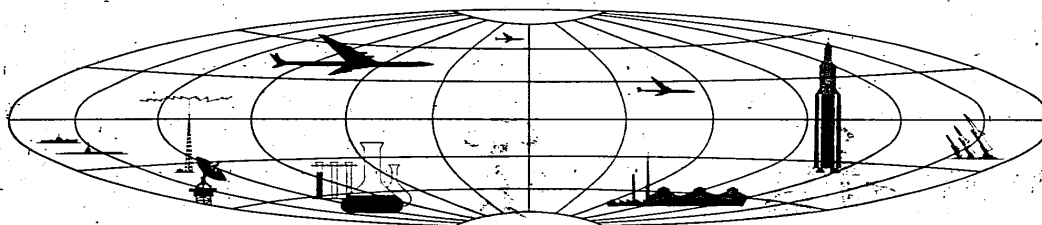
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PHOTOGRAPHIC INTERPRETATION REPORT

TALLINN AMM/SAM LAUNCH COMPLEX
AND CHEREPOVETS SUSPECT
AMM/SAM LAUNCH COMPLEX, USSR

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25X1D A new AMM/SAM launch complex under construction at 59-24-25N 24-19-30E, 13 nautical miles (nm) west-southwest of Tallinn (Figure 1), was revealed by KEYHOLE photography of [REDACTED]

25X1D A suspect AMM/SAM launch complex, in an early stage of construction when observed on KEYHOLE photography of [REDACTED] is located at 59-06-30N 38-10-00E, 8 nm east-southeast of Cherepovets.

No missiles or missile-related equipment were identified at either complex.

This report was prepared in response to a CIA requirement requesting information pertaining to these complexes.

TALLINN AMM/SAM LAUNCH COMPLEX

The Tallinn Complex is situated on the site of the former Vaana Airfield at an approximate elevation of 100 feet above mean sea level, and is located on the Gulf of Finland, 185 nm west-southwest of Leningrad (Figure 1).

25X1D There was no evidence of construction activity associated with the Tallinn Complex when the area was observed on KEYHOLE photography of [REDACTED]

25X1D Subsequent to the [REDACTED] photography the Tallinn Complex was covered by [REDACTED]
25X1D KEYHOLE photography of [REDACTED]
25X1D [REDACTED]

25X1D 2). Portions of the complex were obscured by scattered clouds and cloud shadows on the [REDACTED]
25X1D [REDACTED] photography.

25X1D Mensuration contained in this report was obtained from [REDACTED] because of the lack of ephemeral data for Mission [REDACTED]
25X1D [REDACTED]

The secured complex is road served and occupies an area of approximately 550 acres. Facilities under construction include a launch area, prepared areas or hardstands extending

west from the launch area access road, and an unidentified facility located 2,900 feet east of the launch area (Figure 3). Support facilities of the abandoned airfield are probably being utilized since no new such facilities are observed in the vicinity. An active borrow pit is located approximately 2 nm southwest of the complex.



FIGURE 1. LOCATIONS OF AMM/SAM LAUNCH COMPLEX AND SUSPECT COMPLEX.

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A new bypass road, constructed since [REDACTED] diverts traffic away from the complex on its west side. This road is not within the area shown graphically in this report.

The launch area is served by a north-north-east/south-southwest main road with an access road extending from it to each of five launch sites. Each of the five launch sites has six revetted launch positions in varying stages of construction (see Table 1 and Figures 4 and 5). A comparable revetted launch position, similar in many respects, was recently constructed at Launch Site 3, Launch Complex A, Sary-Shagan Antimissile Test Center.

The launch sites at the Tallinn Complex are arbitrarily assigned designators A through E in this report, and the launch positions are

numbered 1 through 6, clockwise, beginning with the first position to the left of the site access road as shown in Figure 5, Site A.

Azimuths of the long axes of the launch positions (see Table 1) range from approximately [REDACTED]

Five of the launch positions were in a preliminary construction stage (Figure 4) when the complex was first observed, but considerable progress occurred in the interval between [REDACTED] is not shown graphically).

Measurements of the rectangular launch pads, within covered revetment walls (Figure 5, Launch Position A-2), are approximately 180 by 55 feet. The pad surfaces vary in tone and texture (see Table 1).

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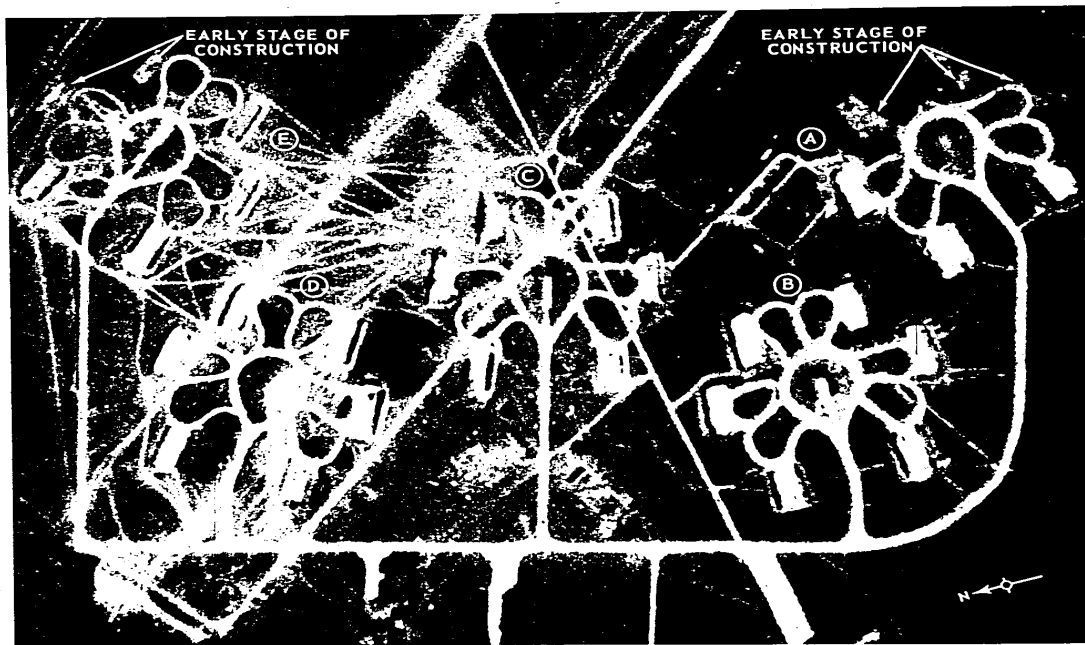


FIGURE 4. LAUNCH AREA, TALLINN AMM/SAM LAUNCH COMPLEX-

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Revetment walls are observed to be light in tone, composition undetermined, in an earlier construction stage (Figure 5, Launch Site E), in contrast to the dark tone of probable earth-covered walls at Launch Sites A and B. Piles of material along the edges of some of the launch pads at the base of the walls, Launch Positions B-1, B-6, D-1 for example, probably represent a phase in the earth covering process.

25X1D An excavation is visible on 26 of the launch pads (see Table 1), at the end nearest the unidentified facility. These excavations appear square in some cases (for example Launch Position C-3, Figure 7) measuring approximately 15 feet on a side, and some appear round (Launch Position C-1) and measure approximately [REDACTED] in diameter. Similar excavations are not discernible at Launch Positions A-3, A-4, A-5, and E-4.

Loop roads serving the individual launch positions (Figures 5 and 6) measure approximately 20 feet in width, while the launch site access roads including the portions encircling the site centers, measure approximately 25 feet in width (Figure 7). The north-northeast/south-southwest main road serving the launch sites is estimated to be approximately 30 feet in width (Figure 5).

The foregoing road widths represent averages of measurements at a limited number of locations. Similarities in tone of road surfaces and adjacent shoulders, fill, or ditches create the problem of distinguishing road limits. Revetments have been constructed opposite the open end or side of some of the launch positions.

Hardstands are under construction at the centrally located probable guidance areas of

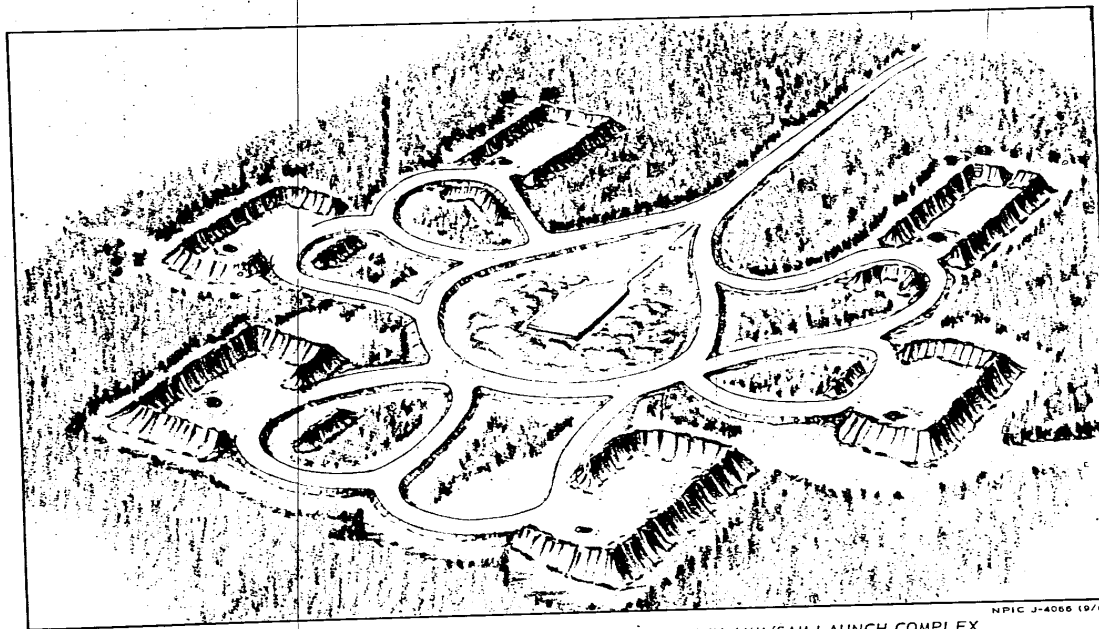


FIGURE 6. ARTIST'S CONCEPT OF TYPICAL LAUNCH SITE, TALLINN AMM/SAM LAUNCH COMPLEX.

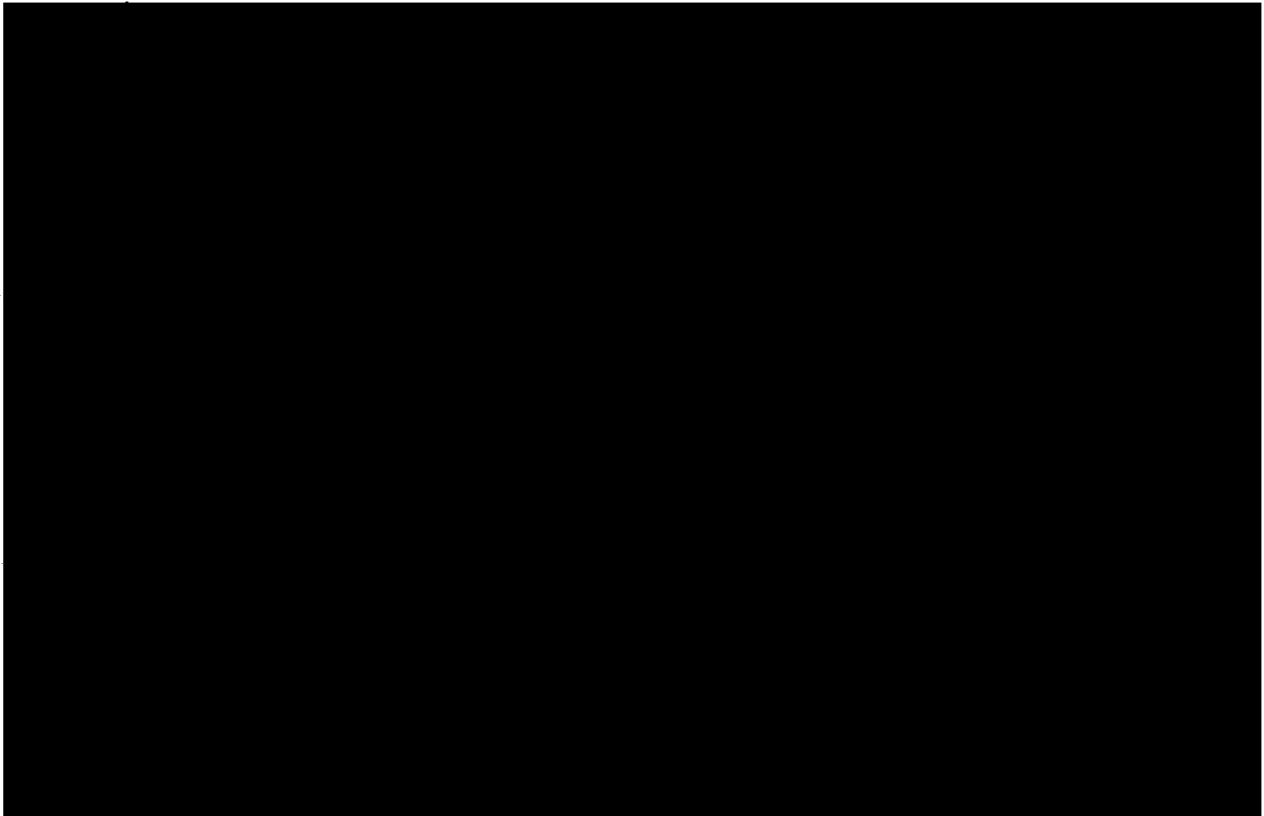
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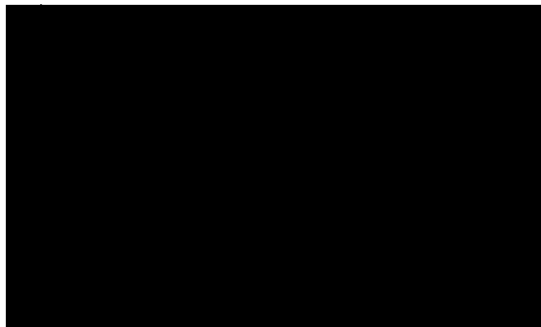


Launch Sites B, C, and E. Preparatory grading appears to have begun at Site A, while the surface of the earth at the center of Site D appears undisturbed. Earth mounded around these positions at Sites B and C indicates that they probably will be revetted.

There has been no discernible change in the appearance of the hardstands located west of the launch area access road, since the complex was first observed. Piles of earth or aggregate observed on two of them on the [REDACTED] photograph indicate they still are under construction.

An enlarged photo of Launch Site C (Figure

7) is included to convey launch site mensuration.



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Table 1. Tallinn AMM SAM Complex, Status of Launch Positions as Observed on [REDACTED] Photography

Table 1. Tallinn AMM-SAM Complex, Status of Launch Positions as Observed on						Photography
Launch Positions	Revetment Walls	Revetment Covering	Launch Pad Surface	Excavation at End of Pad	Azimuth Long Axis (Degrees)	Remarks
<u>Launch Site A</u>						
Launch Position 1	Erected	Incomplete	Smooth, light tone	Circular		Revetment opposite open side prob a/c
Launch Position 2	*Erected	Nearly complete	Smooth, tone varies	Circular		Revetment opposite open side not constructed
Launch Position 3	*Erected	Nearly complete	Varied tone	Not discernible, U/I objects in area		Revetment opposite open side not constructed
Launch Position 4	*Erected	Incomplete	Grading appears incomplete	Not discernible, U/I objects in area		Revetment opposite open side not constructed
Launch Position 5	*Erected	Incomplete	Smooth, light tone	Disturbed earth, U/I objects in area		Revetment opposite open side not constructed
Launch Position 6	Erected	Nearly complete	Smooth, light tone, piles of dark material at one end	Square		
<u>Launch Site B</u>						
Launch Position 1	Erected	Incomplete	Rough, light tone, piles of dark material along edges	Circular, prominent adjacent pile of earth		Opening cut through end revetment
Launch Position 2	*Erected	Incomplete	Rough, light tone, piles of dark material along one edge	Circular		Revetment opposite open side not discernible
Launch Position 3	*Erected	Incomplete	Smooth, light tone, piles of dark material at one corner	Circular		Revetment opposite open side not discernible
Launch Position 4	*Erected	Poss complete	Relatively smooth, varied tone	Circular		Revetment opposite open side not discernible
Launch Position 5	*Erected	Incomplete	Smooth, light tone	Square		Revetment opposite open side not discernible
Launch Position 6	Erected	Incomplete	Rough, light tone, piles of dark materials along edges	Square		
<u>Launch Site C</u>						
Launch Position 1	*Erected	Incomplete	Prob smooth, varied tone	Circular		End revetment & opposite other end of position are incomplete
Launch Position 2	Erected	Incomplete	Relatively smooth, light tone, ridge extends along base of side revetment	Square		

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Table 1. (Continued)

Launch Positions	Revetment Walls	Revetment Covering	Launch Pad Surface	Excavation at End of Pad	Azimuth Long Axis (Degrees)	Remarks
Launch Position 3	Erected	Incomplete	Smooth, light tone	Square		Opening cut in side revetment
Launch Position 4	Erected	Incomplete	Smooth, medium tone	Square		
Launch Position 5	Erected	Incomplete	Smooth, medium tone	Large, rectangular dark image		
Launch Position 6	Erected	Incomplete	Relatively smooth, medium tone	Circular		
Launch Site D						End revetment missing
Launch Position 1	Erected	Incomplete	Rough, light tone, piles of dark material along edges	Circular		Revetment opposite open side of position not discernible
Launch Position 2	Erected	Incomplete	Relatively smooth, light tone	Circular		Revetment opposite open side of position not discernible
Launch Position 3	Erected	Early stage	Relatively smooth, piles of material along one edge	Circular		Revetment opposite open side of position not discernible
Launch Position 4	Erected	Early stage	Rough, light tone, scattered piles of material	Circular		Revetment opposite open side of position not discernible
Launch Position 5	Erected	Early stage	Smooth, light tone	Circular		Revetment opposite open side of position incomplete
Launch Position 6	Erected	Incomplete	Appears smooth, medium tone	Circular		End revetment missing
Launch Site E						Opening in end re- vetment. Revetment opposite open end of position not discernible
Launch Position 1	Erected	Early stage	Rough, mottled ap- pearance, varied tone	Square		Revetment opposite open side of position missing
Launch Position 2	Erected	Early stage	Rough, mottled ap- pearance, varied tone	Square		Revetment opposite open side of position incomplete
Launch Position 3	Erected	Early stage	Rough, mottled ap- pearance, varied tone	Round		Revetment opposite open side of position incomplete
Launch Position 4	Erected	Early stage	Rough, mottled ap- pearance, varied tone	Not discernible, earth disturbed		Revetment opposite open side of position incomplete
Launch Position 5	Erected	Early stage	Rough, mottled ap- pearance, varied tone	Square		Revetment opposite open side of position incomplete
Launch Position 6	Erected	Early stage	Rough, mottled ap- pearance, varied tone	Round		End revetment and one opposite open end missing

*See remarks.

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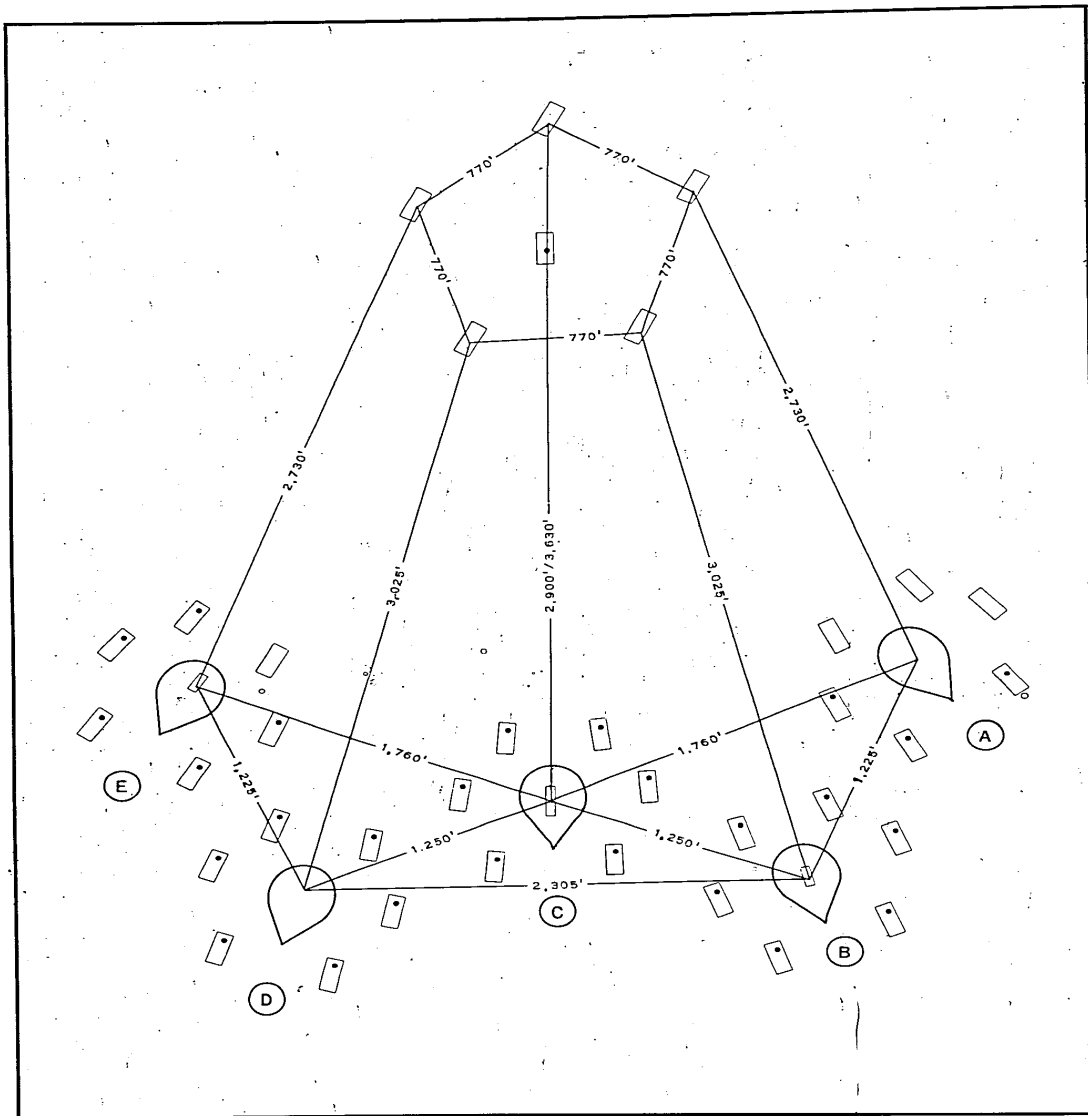


FIGURE 9. SCHEMATIC DIAGRAM, TALLINN AMM/SAM LAUNCH COMPLEX.

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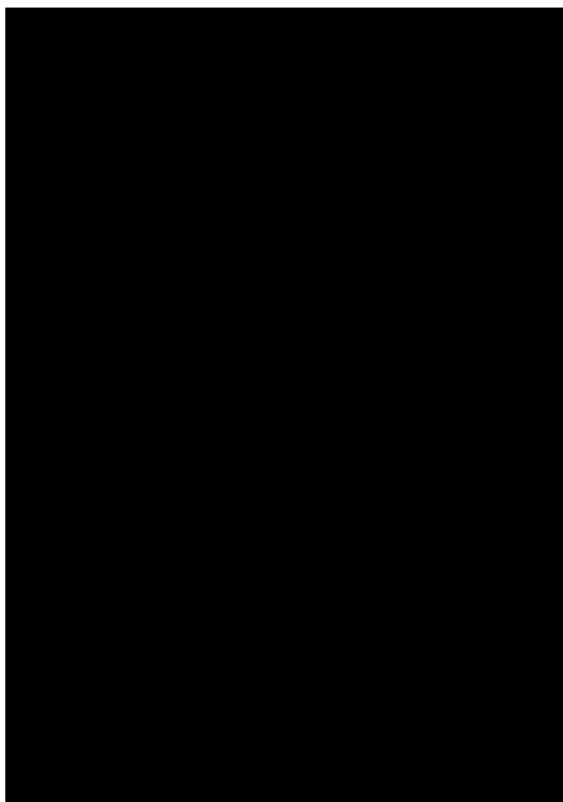
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CHEREPOVETS SUSPECT AMM/SAM LAUNCH
COMPLEX

The Cherepovets Suspect AMM/SAM Launch Complex, located 8.0 nm east-southeast of Cherepovets, occupies an area of approximately 537 acres and is being constructed in partially wooded terrain on the north side of the Sheksna River. This complex is 425 nm east of the Tallinn AMM/SAM Launch Complex, 245 nm east-southeast of Leningrad and 200 nm north-northeast of Moscow (Figure 1).

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The double-fenced complex consists of five hexagonal areas which are suspect launch sites in preliminary stages of construction (Figure 10). Rectangular clearings within the borders of some of the hexagons (Site B, Figure 10) are arranged in a pattern similar to the launch positions at the Tallinn AMM/SAM Launch Complex. These clearings vary somewhat in size and average approximately 220 by 130 feet. The peripheries of the five sites are cleared and in some cases appear as ditches.

An east-west road under construction north of the suspect launch sites could equate to the launch area access road at the Tallinn Complex.

An accurate determination of launch site azimuths is not possible because of their early construction stage. An overall approximate complex azimuth, based on long axes of visible clearings, ranges from approximately 335 to 35 degrees.

Distances separating the hexagonal sites center-to-center are as follows: A to B 1,645 feet; B to C 1,110 feet; C to D 1,645 feet; D to E 1,350 feet.

No signs of construction activity at this location were visible on relatively distinct KEYHOLE photography of [REDACTED]. Several of the site borders and portions of the double fencing were visible on KEYHOLE photography of [REDACTED]. Interpretation of that photography was limited by snow cover and atmospheric haze.

The Cherepovets Complex was next covered by KEYHOLE photography of [REDACTED] (not shown) and by [REDACTED] photography (Figure 10).

Construction progress occurred at Site A during the period between [REDACTED]. The western and southwestern borders were observed as linear clearings on the [REDACTED] coverage and as earth scarring, possibly ditches, on the [REDACTED] photography. Construction progress was also observed along the edges of the clearing

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within Site A. An outline for an additional clearing within Site A was also first observed on the [REDACTED] photography.

Sites A and E and portions of sites B, C, and D were visible through scattered clouds and

haze on KEYHOLE photography of [REDACTED]. Widening of the southern border of Site C was the only change discernible at the five sites.

Fence lines shown in Figure 10 were transferred from earlier photography and superim-

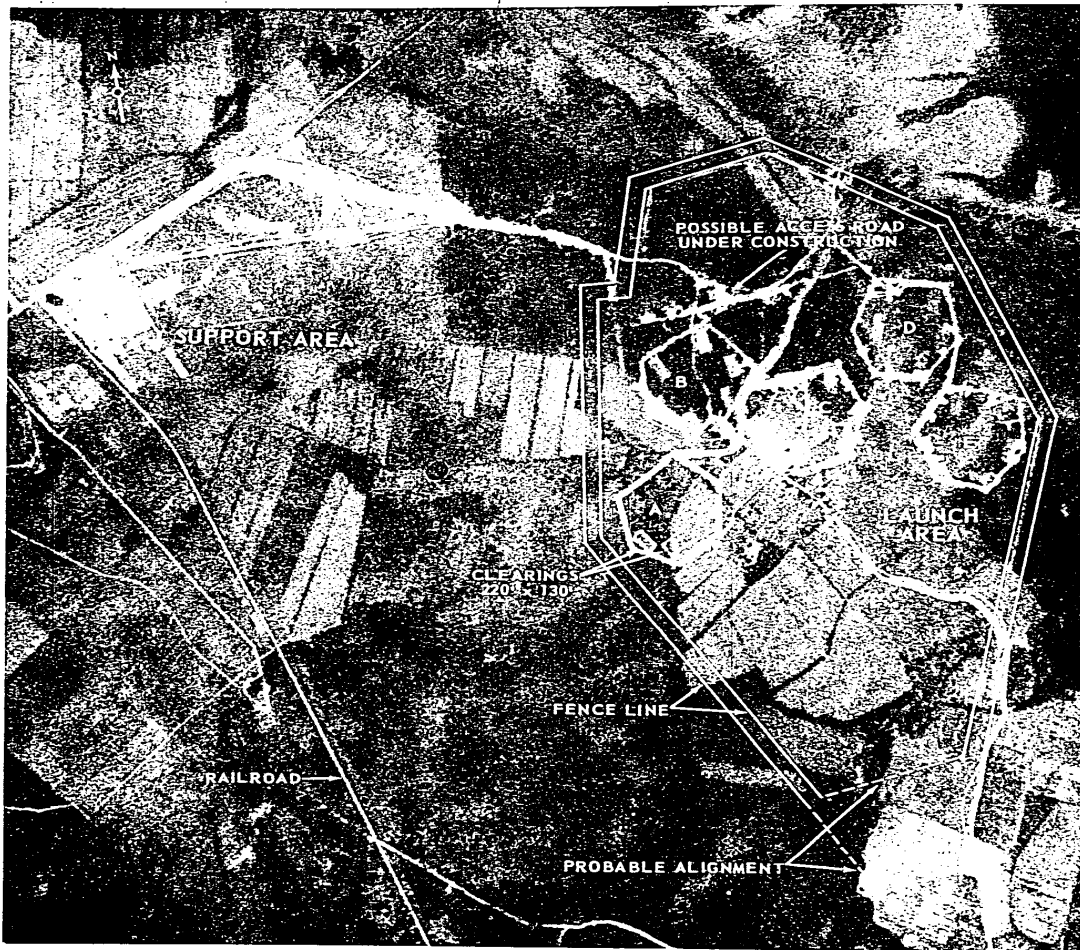


FIGURE 10. CHEREPOVETS SUSPECT AMM/SAM LAUNCH COMPLEX. Under construction.

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posed over the [REDACTED] coverage shown.

Ample space remains within the security fence south of the five sites for construction of additional facilities.

A portion of the inner fence bordering the complex on the north is probably of board construction.

A group of buildings located 0.5 nm northwest of the suspect launch sites under construction may be a support area for the complex. It is located adjacent to the east side of a railroad leading from Cherepovets to a petroleum storage installation 1.5 nm south-southeast of the Support Area. Buildings in this area and their dimensions include four barracks-type: three

140 by 60 feet and one 160 by 70. One long, narrow, low structure closely parallels the rail line, and another higher structure perpendicular to it are barely distinguishable on indistinct photography.

None of these buildings were present when the area was covered by clear photography of [REDACTED]. Two of the barracks-type buildings were visible through heavy cloud cover on photography of [REDACTED]. The other two barracks-type buildings were in an early construction stage in [REDACTED] and appeared complete when observed on photography of [REDACTED].

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REFERENCES

TALLINN

PHOTOGRAPHY

25X1D

MAPS OR CHARTS

ACIC. US Air Target Chart, Series 200, Sheet 0153-2HL, 3d ed, Aug 63, scale 1:200,000 (SECRET)

DOCUMENT

1. NPIC. R-704/64, *Northwest Probable Antimissile-Missile Launch Complex, Leningrad, USSR*, Aug 64 (TOP SECRET CHESS RUFF)

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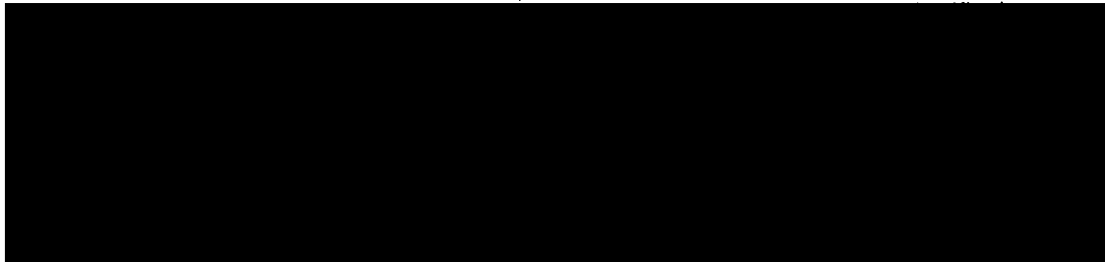
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REFERENCES (Continued)

CHEREPOVETS

PHOTOGRAPHY

25X1D



MAPS OR CHARTS

SAC. US Air Target Chart, Series 200, Sheet 0154-SHL, 2d ed, Mar 64, scale 1:200,000 (SECRET)

REQUIREMENTS

CIA. ORR/C-RR4-61,634

CIA. Supplement to ORR/C-RR4-61,634

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